

UNIVERSITI TEKNOLOGI MARA

ACCELERATED LAMBDA ITERATION METHOD FOR SOLVING ECONOMIC DISPATCH WITH TRANSMISSION LINE LOSSES

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ABSTRACT

Economic Dispatch (ED) problems are one of the most important areas in power system operation and planning. The main objective of the ED problem is to determine the optimal combination of power outputs of all generating units so as to meet the required demand at minimum cost while satisfying the constraints. Many solution models are using different methods have been applied to solve ED problems. This study presents an Accelerated Lambda Iteration method (A λ -I) which is conceptualized based from equal incremental cost criterion and Linear Extrapolation to solve ED problems. The method is tested on 3 and 40 thermal generating unit systems to show the feasibility of the algorithm. Result obtained using the proposed method for 40-unit test system is compared with Classical Lambda Iteration Method.

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